

Form PTO-1449
(REV. 1/06)US Dept. of Commerce
PATENT & TRADEMARK OFFICEATTY DOCKET NO.
128865APPLICATION NO.
10/587,268

INFORMATION DISCLOSURE STATEMENT

(Use several sheets if necessary)

APPLICANTS
Hiroaki TAKAIWA et al.FILING DATE
July 26, 2006GROUP
2882

U.S. PATENT DOCUMENTS

Examiner Initials	Cite No.	Document Number	Date	Name
	1	5,646,413	7/08/1997	Nishi
	2	6,195,154 B1	2/27/2001	Imai
	3	2002/0061469 A1	5/23/2002	Tanaka
	4	2002/0041377 A1	4/11/2002	Hagiwara et al.
	5	2005/0225734 A1	10/13/2005	De Smit et al.
	6	2005/0161644 A1	7/28/2005	Zhang et al.
	7	2005/0173682 A1	8/11/2005	Zhang et al.
	8	2006/0098177 A1	5/11/2006	Nagasaki
	9	2002/0163629 A1	11/07/2002	Switkes et al.
	10	2003/0013026 A1	1/16/2003	Lim
	11	2003/0030916 A1	2/13/2003	Suenaga
	12	2003/0174408 A1	9/18/2003	Rostalski et al.
	13	2004/0000627 A1	1/01/2004	Schuster
	14	2004/0075895 A1	4/22/2004	Lin
	15	2004/0109237 A1	6/10/2004	Epple et al.
	16	2004/0114117 A1	6/17/2004	Bleeker
	17	2004/0118184 A1	6/24/2004	Violette
	18	2004/0119954 A1	6/24/2004	Kawashima et al.
	19	2004/0125351 A1	7/01/2004	Krautschik
	20	2004/0136494 A1	7/15/2004	Lof et al.
	21	2004/0160582 A1	8/19/2004	Lof et al.
	22	2004/0169834 A1	9/02/2004	Richter et al.
	23	2004/0169924 A1	9/02/2004	Flagello et al.
	24	2004/0180294 A1	9/16/2004	Baba-Ali et al.
	25	2004/0180299 A1	9/16/2004	Rolland et al.
	26	2004/0207824 A1	10/21/2004	Lof et al.

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U.S. PATENT DOCUMENTS					
Examiner Initials	Cite No.	Document Number	Date	Name	
27		2004/0211920 A1	10/28/2004	DerkSEN et al.	
28		2004/0224265 A1	11/11/2004	Endo et al.	
29		2004/0224525 A1	11/11/2004	Endo et al.	
30		2004/0227923 A1	11/18/2004	Flagello et al.	
31		2004/0233405 A1	11/25/2004	Kato et al.	
32		2004/0253547 A1	12/16/2004	Endo et al.	
33		2004/0253548 A1	12/16/2004	Endo et al.	
34		2004/0257544 A1	12/23/2004	Vogel et al.	
35		2004/0259008 A1	12/23/2004	Endo et al.	
36		2004/0259040 A1	12/23/2004	Endo et al.	
37		2004/0263808 A1	12/30/2004	Sewell	
38		2004/0263809 A1	12/30/2004	Nakano	
39		2005/0002004 A1	1/06/2005	Kolesnychenko et al.	
40		2005/0007569 A1	1/13/2005	Streefkerk et al.	
41		2005/0007570 A1	1/13/2005	Streefkerk et al.	
42		2005/0018155 A1	1/27/2005	Cox et al.	
43		2005/0018156 A1	1/27/2005	Mulkens et al.	
44		2005/0030497 A1	2/10/2005	Nakamura	
45		2005/0030498 A1	2/10/2005	Mulkens	
46		2005/0030506 A1	2/10/2005	Schuster	
47		2005/0030511 A1	2/10/2005	Auer-Jongepier et al.	
48		2005/0036121 A1	2/17/2005	Hoogendam et al.	
49		2005/0036183 A1	2/17/2005	Yeo et al.	
50		2005/0036184 A1	2/17/2005	Yeo et al.	
51		2005/0036213 A1	2/17/2005	Mann et al.	
52		2005/0037269 A1	2/17/2005	Levinson	
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	53	2005/0041225 A1	2/24/2005	Sengers et al.	
	54	2005/0042554 A1	2/24/2005	Dierichs et al.	
	55	2005/0046813 A1	3/03/2005	Streefkerk et al.	
	56	2005/0048223 A1	3/03/2005	Pawloski et al.	
	57	2005/0052632 A1	3/10/2005	Miyajima	
	58	2005/0068639 A1	3/31/2005	Pierrat et al.	
	59	2005/0073670 A1	4/07/2005	Carroll	
	60	2005/0074704 A1	4/07/2005	Endo et al.	
	61	2005/0078286 A1	4/14/2005	Dierichs et al.	
	62	2005/0078287 A1	4/14/2005	Sengers et al.	
	63	2005/0084794 A1	4/21/2005	Meagley et al.	
	64	2005/0088635 A1	4/28/2005	Hoogendam et al.	
	65	2005/0094114 A1	5/05/2005	Streefkerk et al.	
	66	2005/0094116 A1	5/05/2005	Flagello et al.	
	67	2005/0094119 A1	5/05/2005	Loopstra et al.	
	68	2005/0100745 A1	5/12/2005	Lin et al.	
	69	2005/0110973 A1	5/26/2005	Streefkerk et al.	
	70	2005/0117224 A1	6/02/2005	Shafer et al.	
	71	2005/0122497 A1	6/09/2005	Lyons et al.	
	72	2005/0134815 A1	6/23/2005	Van Santen et al.	
	73	2005/0134817 A1	6/23/2005	Nakamura	
	74	2005/0141098 A1	6/30/2005	Schuster	
	75	2005/0145265 A1	7/07/2005	Ravkin et al.	
	76	2005/0145803 A1	7/07/2005	Hakey et al.	
	77	2005/0146694 A1	7/07/2005	Tokita	
	78	2005/0146695 A1	7/07/2005	Kawakami	
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			U.S. PATENT DOCUMENTS		
Examiner Initials	Cite No.	Document Number	Date	Name	
	79	2005/0147920 A1	7/07/2005	Lin et al.	
	80	2005/0153424 A1	7/14/2005	Coon	
	81	2005/0158673 A1	7/21/2005	Hakey et al.	
	82	2005/0164502 A1	7/28/2005	Deng et al.	
	83	2005/0174549 A1	8/11/2005	Duineveld et al.	
	84	2005/0175940 A1	8/11/2005	Dierichs	
	85	2005/0185269 A1	8/25/2005	Epple et al.	
	86	2005/0190435 A1	9/01/2005	Shafer et al.	
	87	2005/0190455 A1	9/01/2005	Rostalski et al.	
	88	2005/0205108 A1	9/22/2005	Chang et al.	
	89	2005/0213061 A1	9/29/2005	Hakey et al.	
	90	2005/0213072 A1	9/29/2005	Schenker et al.	
	91	2005/0217135 A1	10/06/2005	O'Donnell et al.	
	92	2005/0217137 A1	10/06/2005	Smith et al.	
	93	2005/0217703 A1	10/06/2005	O'Donnell	
	94	2005/0219481 A1	10/06/2005	Cox et al.	
	95	2005/0219482 A1	10/06/2005	Baselmans et al.	
	96	2005/0219499 A1	10/06/2005	Zaal et al.	
	97	2005/0225737 A1	10/13/2005	Weissenrieder et al.	
	98	2005/0231694 A1	10/20/2005	Kolesnychenko et al.	
	99	2005/0233081 A1	10/20/2005	Tokita	
	100	2005/0237501 A1	10/27/2005	Furukawa et al.	
	101	2005/0243292 A1	11/03/2005	Baselmans et al.	
	102	2005/0245005 A1	11/03/2005	Benson	
	103	2005/0253090 A1	11/17/2005	Gau et al.	
	104	2005/0259233 A1	11/24/2005	Streefkerk et al.	
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U.S. PATENT DOCUMENTS					
Examiner Initials	Cite No.	Document Number	Date	Name	
	105	2005/0259236 A1	11/24/2005	Straaijer	
	106	2005/0264778 A1	12/01/2005	Lof et al.	
	107	2005/0270505 A1	12/08/2005	Smith	
	108	2006/0177777 A1	8/10/2006	Kawamura et al.	
	109	2006/0256316 A1	11/16/2006	Tanno et al.	
	110	2007/0159609 A1	7/12/2007	Takaiwa et al.	
	111	3,727,620	4/17/1973	Orr	
	112	5,177,528	1/05/1993	Koromegawa et al.	
	113	5,274,434	12/28/1993	Morioka et al.	
	114	5,444,529	8/22/1995	Tateiwa	
	115	5,684,296	11/04/1997	Hamblin et al.	
	116	6,025,206	2/15/2000	Chen et al.	
	117	6,281,962 B1	8/28/2001	Ogata et al.	
	118	6,827,816 B1	12/07/2004	Uziel et al.	
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FOREIGN PATENT DOCUMENTS								
Examiner Initials	Cite No.	Document Number	Date	Country		With English Abstract	With English Translation	
	119	JP-A-6-168866	6/14/1994	Japan			X	
	120	JP-A-10-303114	11/13/1998	Japan			X	
	121	WO 2004/053952 A1	6/24/2004	WIPO			X	
	122	EP 1 571 694 A1	9/07/2005	Europe				
	123	WO 2004/105107 A1	12/02/2004	WIPO			X	
	124	EP 1 628 329 A1	2/22/2006	Europe				
	125	EP 1 672 681 A1	6/21/2006	Europe				
	126	JP-A-57-153433	9/22/1982	Japan			X	
	127	JP-A-2000-155079	6/06/2000	Japan			X	
	128	JP-A-2000-180371	6/30/2000	Japan			X	
	129	WO 02/091078 A1	11/14/2002	WIPO				
	130	WO 03/077037 A1	9/18/2003	WIPO				
	131	WO 2004/055803 A1	7/01/2004	WIPO				
	132	WO 2004/057589 A1	7/08/2004	WIPO				
	133	WO 2004/057590 A1	7/08/2004	WIPO				
	134	WO 2004/077154 A2	9/10/2004	WIPO				
	135	WO 2004/081666 A1	9/23/2004	WIPO				
	136	WO 2004/090577 A2	10/21/2004	WIPO				
	137	WO 2004/090633 A2	10/21/2004	WIPO				
	138	WO 2004/090634 A2	10/21/2004	WIPO				
	139	WO 2004/092830 A2	10/28/2004	WIPO				
	140	WO 2004/092833 A2	10/28/2004	WIPO				
	141	WO 2004/093130 A2	10/28/2004	WIPO				
	142	WO 2004/093159 A2	10/28/2004	WIPO				
	143	WO 2004/093160 A2	10/28/2004	WIPO				
	144	WO 2004/095135 A2	11/04/2004	WIPO				
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Examiner Initials	Cite No.	Document Number	Date	Country	With English Abstract	With English Translation
	145	WO 2005/001432 A2	1/06/2005	WIPO		
	146	WO 2005/001572 A2	1/06/2005	WIPO		
	147	WO 2005/003864 A2	1/13/2005	WIPO		
	148	WO 2005/006026 A2	1/20/2005	WIPO		
	149	WO 2005/008339 A2	1/27/2005	WIPO		
	150	WO 2005/013008 A2	2/10/2005	WIPO		
	151	WO 2005/015283 A1	2/17/2005	WIPO		
	152	WO 2005/017625 A2	2/24/2005	WIPO		
	153	WO 2005/019935 A2	3/03/2005	WIPO		
	154	WO 2005/022266 A2	3/10/2005	WIPO		
	155	WO 2005/024325 A2	3/17/2005	WIPO		
	156	WO 2005/024517 A2	3/17/2005	WIPO		
	157	WO 2005/034174 A2	4/14/2005	WIPO		
	158	WO 2005/050324 A2	6/02/2005	WIPO		
	159	WO 2005/054953 A2	6/16/2005	WIPO		
	160	WO 2005/054955 A2	6/16/2005	WIPO		
	161	WO 2005/059617 A2	6/30/2005	WIPO		
	162	WO 2005/059618 A2	6/30/2005	WIPO		
	163	WO 2005/059645 A2	6/30/2005	WIPO		
	164	WO 2005/059654 A1	6/30/2005	WIPO		
	165	WO 2005/062128 A2	7/07/2005	WIPO		
	166	WO 2005/064400 A2	7/14/2005	WIPO		
	167	WO 2005/064405 A2	7/14/2005	WIPO		
	168	WO 2005/069055 A2	7/28/2005	WIPO		
	169	WO 2005/069078 A1	7/28/2005	WIPO		
	170	WO 2005/069081 A2	7/28/2005	WIPO		
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	171	WO 2005/071491 A2	8/04/2005	WIPO		
	172	WO 2005/074606 A2	8/18/2005	WIPO		
	173	WO 2005/076084 A1	8/18/2005	WIPO		
	174	WO 2005/081030 A1	9/01/2005	WIPO		
	175	WO 2005/081067 A1	9/01/2005	WIPO		
	176	WO 2005/098504 A1	10/20/2005	WIPO		
	177	WO 2005/098505 A1	10/20/2005	WIPO		
	178	WO 2005/098506 A1	10/20/2005	WIPO		
	179	WO 2005/106589 A1	11/10/2005	WIPO		
	180	WO 2005/111689 A2	11/24/2005	WIPO		
	181	WO 2005/111722 A2	11/24/2005	WIPO		
	182	WO 2005/119368 A2	12/15/2005	WIPO		
	183	WO 2005/119369 A1	12/15/2005	WIPO		
OTHER DOCUMENTS						
Examiner Initials	Cite No.	Including name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.				
	184	B.J. Lin, "Semiconductor Foundry, Lithography, and Partners" Proceedings of SPEI Vol. 4688 (2002), p. 11-24.				
	185	M. Switkes et al., "Resolution Enhancement of 157nm Lithography by Liquid Immersion" Proceedings of SPEI Vol. 4691 (2002), p. 459-465.				
	186	M. Switkes et al., "Resolution Enhancement of 157nm Lithography by Liquid Immersion" J. Microlith., Microfab., Vol. 1 No. 3, October 2002, p. 1-4.				
	187	Soichi Owa et al., "Nikon F2 Exposure Tool" slides 1-25, 3 rd 157nm Symposium 2002, September 4, 2002.				
	188	Soichi Owa, "Immersion Lithography" slides 1-24, Immersion Lithography Workshop, December 11, 2002.				
	189	Soichi Owa and Hiroyuki Nagasaka, "Immersion Lithography; Its Potential Performance and Issues", SPIE Optical Microlithography XVI, Vol. 5040 (2003) p. 724-733.				
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	190	Soichi Owa and Hiroyuki Nagasaka, "Potential Performance and Feasibility of Immersion Lithography" slides 1-33, NGL Workshop 2003, July 10, 2003.		
	191	S. Owa et al., "Update on 193nm Immersion Exposure Tool" slides 1-38, Immersion Workshop 2004, January 27, 2004.		
	192	S. Owa et al., "Update on 193nm Immersion Exposure Tool" slides 1-51, Litho Forum, January 28, 2004.		
	193	March 4, 2008 Office Action in Application No. 11/398,572.		
	194	November 28, 2008 Office Action in Application No. 11/398,572.		
	195	August 27, 2009 Office Action in Application No. 11/398,572.		
	196	November 18, 2009 Office Action in Application No. 11/398,572.		
	197	July 28, 2010 Office Action in Application No. 11/398,572.		
	198	March 13, 2008 Office Action in Application No. 11/652,015.		
	199	December 30, 2008 Notice of Allowance in Application No. 11/652,015.		
	200	April 13, 2009 Office Action in Application No. 11/652,015.		
	201	December 1, 2009 Office Action in Application No. 11/652,015.		
	202	May 19, 2010 Advisory Action in Application No. 11/652,015.		
	203	August 5, 2010 Office Action in Application No. 11/652,015.		
	204	December 7, 2009 Office Action in Application No. 11/889,288.		
	205	July 28, 2010 Office Action in Application No. 11/889,288.		
	206	April 2, 2008 Supplementary European Search Report in European Application No. 04792152.3.		
	207	July 18, 2008 Office Action in European Application No. 04792152.3.		
	208	February 17, 2009 Office Action in European Application No. 04792152.3.		
	209	October 28, 2010 Office Action in European Application No. 04792152.3.		
	210	January 11, 2005 International Search Report in International Application No. PCT/JP2004/014855, with translation.		
	211	January 11, 2005 Written Opinion in International Application No. PCT/JP2004/014855, with translation.		
	212	November 25, 2008 Office Action in Japanese Application No. 2005-514600, with translation.		
	213	May 19, 2009 Notice of Allowance in Japanese Application No. 2005-514600, with translation.		
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